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DETERMINANT FACTORS TO MERGER CONTROL DECISIONS IN PORTUGAL

Diana Isabel Santos Leonardo, Student nr 2205

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Professor Pedro Pita Barros

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Abstract

The present paper aims to investigate the determinant factors of Portuguese merger control. Our sample comprises 652 M&A cases occurred between January of 2003 and September of 2015. Through a probit model we have tested the relevance of product and geographic market, entry barriers, type of concentration, merger effects, year of decision and the President of the Competition Authority at the time. The results suggests that the conglomerate and vertical effects, the existence of barriers to entry as well as the number of regulatory agencies listened are the main explanatory variables to determine a need for an in-depth investigation and to make a final decision. According to the evidence, cases cleared at Phase 1 are increasing over time. The number of prohibited mergers is close to zero.

Keywords: Competition Authority, decision, merger control, Portugal, M&A

Aknowledgments

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The author dedicates this thesis to her parents and brother for all the support.

Section 1. Introduction

The main goal of this project is to investigate which are the main drivers that lead Autoridade da Concorrência (AdC), the Portuguese Competition Authority to take a decision whether a proposal of Merger & Acquisition (M&A) is approved in the first screening phase or in a second in depth investigation, with or without commitments.

This is a timely and important issue. First, it is timely, because AdC is working for 13 years and there are no previous studies on the field focusing on Portuguese data. Second, it is important because by knowing the predictable AdC's decisions, merging firms may optimize their intentions to merge in order to get the final approval, thus contributing for easier decisions of Competition Authority.

Often, mergers are part of firms' strategy to improve their competitive position in the market by optimizing resource allocation. Besides, it may also contribute for increase market power. On one hand, with efficiency gains, market becomes more competitive and challenging for the other firms, with consumers benefiting from higher quality goods at fairer prices. On the other hand, the strength of firms' market power reduces competition, leading merging firms and also their competitors to set higher prices and harm consumers.

Thus, the scrutiny of the authorities aligned with the Competition Law in force is an important tool for Competition Authorities around the world, in order to ensure that competition is bringing benefits for all parties in society: firms, competitors, suppliers and consumers. Portuguese Competition Authority follows the Law No 19/2012 of 8 May to take its decisions

Under Competition Law, AdC has the power to prohibit merger agreements between firms, that may threaten competition in its relevant market (Art.9). Hence, to prevent anti-competitive mergers, Competition Authorities assesses mergers. The starting point is a

screening phase, the so called Phase 1, when after 30 days a merger may be approved, approved subject to conditions or raise serious doubts. In the last case, AdC pursue for an in-depth investigation, Phase 2, to finally decide if the merger is outright approved, subjected to conditions or prohibited.

We study under which circumstances the Authority decides to open a second phase investigation and also the factors that mostly explain the final decision through the application of two different probit models.

Previous studies on European Commission (EC) decisions and also on FTC (Federal Trade Commission) in the US, have already used probit models to analyze each one of the questions.[1] Their main findings point out barriers to entry, combined market shares, merger effects, i.e., conglomerate, vertical or horizontal effects, as the main determinants of Authorities' final decisions. We propose to investigate the relevance of this variables in the Portuguese case and also the followings: influence of different Presidents of the Authority, relevant geographic and product market, and type of acquisition. Besides, we included a new variable representing the number of sectoral regulatory authorities to be listened when deciding on a case. Factors such as type of concentration, relevant product and geographic market as well as the President of Competition Authority are confirmed as not statistically significant.

This paper is organized into sections as follows. Section 2 describes the existing literature on merger control. Section 3 presents the background of Portuguese Merger Control based on Competition Law. Section 4 explains the data and methodology

[1] See for instance Duso et al, (2007), Bergman et al (2005) for EC decisions and Coate (1990) for FTC decisions, among many others.

employed and even how the model was built. Section 5 reports the discussion of results. Section 6 points out the main conclusions.

Section 2. Literature Review

The literature on mergers and the existence of merger control is quite extensive and addresses different questions.

Among the main topics studied are firms' incentives to merge, legal certainty and determinants of control decisions, the effectiveness of merger policy and also deterrent effects on future mergers.

There are several reasons behind a merger decision. Among them, we find efficiency concerns, improvement of market power, better market discipline as well as advantage of diversification concerning risk management and the exploitation of internal capital markets. (Andrade et al., 2001). Moreover, mergers can be consequence of a reaction to the unexpected changes in the industry structures, since they tend to come in waves and cluster by industry (Mitchel & Mulherin, 1996).

A merger may have two possible effects. First, it will enhance firms' efficiency through the achievement of economies of scale and scope or other synergies. Thus, firms can reduce their production or distributions costs, contributing thereby for competitiveness of markets and also for consumers' welfare, who may benefit from a better price to quality ratio in goods. However, with mergers, firms can also improve their market power and so, reduce competition, leading to inefficiencies either due to monopoly pricing or to the low incentives for cost control. As a result, in this case, consumers see their welfare decrease thanks to higher prices and low choice for products. (Davies & Lyons, 2007).

Effectively, a merger decision has impact not only in merging firms, but also in the other firms and consumers. Consequently, there is a need for merger control in order to boost the market dynamism, ensure the existence of competition and thus, preserve consumer welfare. (Duso et al., 2011). In fact, decisions based on consumer surplus may lead to higher social welfare than those based only on a welfare standard. (Neven & Roller, 2005).

When a merger is proposed, the stock price for merging firms increase around the initial announcement date, as result of the expected increasing market power. Under anticompetitive mergers, rival firms on the market will also increase their market power due to the reduction of competition and so, their stock price may increase as well. By analyzing a sample of European mergers between 1990 and 2000, Aktas et al. (2007) found a decrease in rival firms' stock price, concluding then, that mergers boosted industry competitiveness. Duso et al. (2011) assumed that an effective merger control decision is the one leading to a full gains reversal, i.e., where there is a negative relation between announcement and decision abnormal returns in stock prices. Overall, they conclude that remedies are more effective under no severe anticompetitive cases as well as if applied in Phase 1 or in remedy-intensive industries, i.e. industries that have an historical record on imposing remedies. Additionally, over the years, the imposition of commitments has increased rather than an integral prohibition. Remedies have avoid abuses of power without compromising efficiency gains, although anti-competitive rents have only been avoid by outright prohibitions.

A study on merger remedies pursued by European Commission (DG Comp2005), which analyzes the design and implementation of 85 different remedies in 40 decisions between 1996 and 2000, confirms that commitments are mostly effective in Phase 1.

According to conclusions, 57% of remedies were effective, 24% raised some issues that were not solved during the implementation, 7% were ineffective and the remaining 12% unclear. In fact, by applying an easy remedy to implement, the Authority can avoid open a costly Phase 2. Moreover, the timing in which a decision is made can transmit some insights: if the decision is out earlier, it is a surprise to market; in opposite if there is a delay it is expected a harsh decision.

When taking a decision, the Competition Authority can fall in two different errors, type I or type II. While type I errors occur when procompetitive processes are prohibited, type II errors occur when an anti-competitive merger is not prohibited. Under anti-competitive mergers, firms gain market power and can set higher prices, benefiting at the expense of consumers. In contrast, firms can suffer with a pro-competitive that also have a negative impact on competitors but a positive one in consumer welfare. Duso et al. (2007) analyzed 167 merger control decisions in the European Union between 1990 and 2002. Through the application of a probit regression, the authors considered political and institutional factors as drivers to an error, namely, the market definition, procedural aspects as well as country and industry effects. They found that commission made a type I error in 3 of the 14 prohibitions (21%) and a type II error in 23% of the cases that were cleared without commitments.

There has been also literature analyzing the main determinants for merger control decisions concerning the opening of Phase 2 investigations and the final decisions.

First, the probability to open a Phase 2 investigation is positively correlated with parties' market shares, barriers to entry and the possibility of collusion after merger (Bergman et al, 2005). Second, the final decisions of Commission are mainly influenced by the nature of merger, i.e. if there are horizontal, vertical or conglomerate effects or

potential barriers to entry (Bergman et al, 2005 and Duso et al, 2007). However, there are other factors influencing the decision, namely the product and geographic relevant markets, the type of concentration (partial or full merger, joint venture, assets acquisition, and tender offer), the origin of merging firms, the Phase in which merger is cleared, combined market shares of merging firms, market size of competitors, as well as the policy of each President of the Authority. Duso et al. (2007) found that probability of an action decreases when there is an American firm involved or relevant market is defined as the European one. Whilst, it increases for manufacturing product market, full mergers (rather than partial), with the size of rival firms, under the presence of conglomerate or vertical effects, or when made between 1995 and 2002.

In the United States the situation is not different and evidence on FTC merger decisions between 1982 and 1986 demonstrates the influence of barriers to entry, collusion effects and Herfindahl-Hirschman Index (HHI) on final decisions (Coate, 1990).

There are yet studies focusing on the deterrent effect of a merger control, arguing that merger policy actions today affect the action of firms in the subsequent years. An effective and tough merger control policy should have a decreasing effect on the firms' merger intentions (Sogard, 2009) and also make them to prefer vertical mergers that may increase efficiency, rather than horizontal ones (Seldeslachts et al., 2009). Actually, prohibitions reduce the number of anti-competitive merger notifications in the following periods. However, while prohibitions discourage future merger activity, remedies lead to a slight increase in subsequent years (Duso et al., 2010, 2015).

The Competition Authorities benefits from higher bargaining power in initial stage of decision process, when merging firms hope to reach a quick deal, avoiding the higher

probability of interventions coming in the future. This way, remedies imposed in Phase 1 may be costly to the firms and thereby, they have significant deterrence effect, rather than Phase 2 remedies and outright prohibitions (Duso et al, 2015).

Several authors have raised concerns with withdrawn mergers. Duso et al. (2013) verified that after the Reform of European Merger Control (2004), prohibitions are decreasing as opposed to merger withdrawals that are increasing. Phase 1 withdrawn mergers may be explained by specific reasons of the merging firms (Duso et al., 2015), although when in Phase 2, the withdrawal signals strong objections made by Commission, and so, they may be considered as prohibitions (Bergman et al., 2005).

Our approach is inspired on Bergman et al (2005) who studied the probability of open a phase 2 investigation and Duso et al (2007) who studied the probability of each final decision.

First, this study analyzes the evolution of Portuguese merger control decisions over time by looking to the trends and possible deterrent effects in a more qualitative way, inspired by the findings of Duso et al (2015). Moreover, we will study if withdrawal mergers would have, in fact, high probability of be prohibited if they were not withdrawn.

Second, we will look at the impact of variables concerning product and geographic market, type of merger and its effects as well as existence of barriers to entry in the relevant market in order to determine which ones are relevant to pursue for a Phase 2 or to make the final decision.

In order to ensure that merger decisions do not suffer with differences in policy depending on who was leading the Competition Authority, we also consider differentiate decisions according to the President of Institution in respective time. Bergman et al.

(2015) have found no statistically significance for this factor, but it may not apply for European mergers in general, and apply for Portuguese ones in particular.

Section 3. Portuguese Merger Control-Institutional Background

Merger control in Portugal is ensured by Autoridade da Concorrência which is an independent regulatory entity working since 2003. Before, merger control was ensured by Direcção Geral da Concorrência e do Comércio, a government body.

AdC aims to promote competition, an adequate level of innovation and the largest benefit to consumers through the enforcement of efficient market mechanisms.

The Competition Policy in Portugal follows closely the European Commission Competition Rules, where there are two phases, the First Screening and then, if necessary the Second which is an in-depth investigation. Mergers involving a national dimension must be notified to Portuguese Competition Authority.

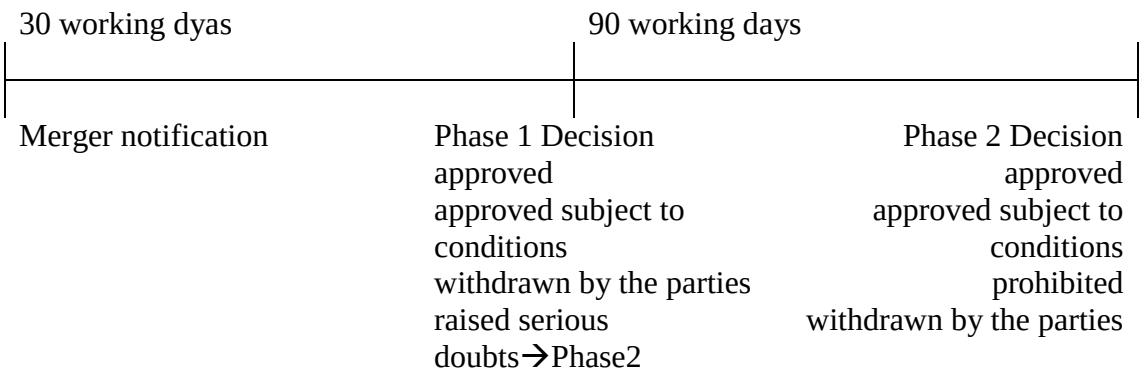
According to Law No 19/2012 of 8 May, agreements between firms, concerted practices, abuses of dominant position, abuse of economic dependence and also state aid are prohibited activities; while concentrations are only allowed if they "do not create significant impediments to effective competition in the domestic market or a substantial part of it." (Art. 9)

A prior notification is needed when after merger, the combined market share of merging firms is above 50% in domestic market or relevant part of it; if market share is between 30% and 50% and two of the merging firms have turnover above 5 Million €, or even if the combined turnover is above 100 Million € and two firms have turnover above 5 Million €. (Art. 37)

After receiving the notification of concentration, the Authority has 30 working days (Art. 49) to take a decision-Phase1-whether the concentration is compatible with the

common market or not. If notifying party decide submit commitments in order to ensure the effective competition, the time limit is extended for 20 working days following the submission of commitments. (Art. 51). After, the preliminary investigation, the Authority can then, state that the concentration does not fall within the scope of the procedure regarding control of concentrations between undertakings (Art. 50.1.a); clear the proposed merger if it does not create any impediment to effective competition (Art. 50.1.b), decide to accept subject to the commitments presented (Art. 51) or even to ask for a more in depth analysis-Phase 2(Art. 50. 1.c). In Phase 2, Authority uses 90 working days to finally decide whether to allow the concentration or to impose commitments or obligations (Art.53.1.a), or even to prohibit the merger (Art. 53.1.b). Moreover, the notifying party can at any time withdraw the merger proposal (Art. 46).

Figure 1 Timing of Portuguese Merger Control



Section 4. Data and Methodology

The data was gathered from Portuguese Competition Authority base and completed with the public information available.

Between January of 2003 and September of 2015, there was 720 proposed mergers notified to the Portuguese Competition Authority. Among these, in Phase 1 were approved without commitments 604 mergers and 18 with commitments, despite one

single prohibition. There were 34 cases needing an in-depth investigation of which 6 were approved outright, 15 were cleared subject to commitments, 5 prohibited and even 8 cases withdrawn by the notifying party. (See Table 1)

Portuguese Competition Law (Law no 19/2012) does not provide merger prohibitions on Phase 1. The prohibited merger in Phase 1 is thus, an exception. It corresponds to the process 41/2009on Portuguese Competition Authority database, which is a joint control acquisition of Grupo Media Capital SGPS, S.A by Ongoing Media, SGPS, S.A and Vertix, SGPS, S.A.[2] The case focus on Television sector and so, according to Article 55 of Law no 19/2012, the Authority may ask the respective regulatory entities, namely, the Regulating Authority for the Media (Entidade Reguladora para a Comunicação Social-ERC) and National Authority for Communications Regulation (Autoridade Nacional das Comunicações -ANACOM). While ANACOM provided a favorable opinion, ERC did not. Taking into account that according to Article 4.2 of applicable Television Law at the time (Law 32/2003), the regulatory entity delivers a binding opinion, the Competition Authority was forced to not allow the merger, in Phase 1.

To the purpose of this study, we do not consider the merger prohibited in Phase 1, cases withdrawn in Phase 1 (6), the cases forwarded to the European Commission (3), neither the cases out of the procedure regarding the control of concentrations between undertakings (47). (See Table 1)

We end up so, with 659 merger cases considering the 8 Phase 2 withdrawals and 651, otherwise.

[2] The decision report of AdC on the case is available here: http://www.concorrencia.pt/FILES_TMP/2009_41_final_net.pdfhere:

Figure 2 shows the total number of merger notified to the Portuguese Competition Authority. It is possible verify that number vary among the years, despite the downward trend. The high number of notifications (82) was achieved in 2005. Almost all the merger cases notified have been decided on Phase 1 as opposed to Phase 2 cases that are close to zero and even present a decreasing trend.

Figure 2 Notified Merger Cases and Investigations per phase over time

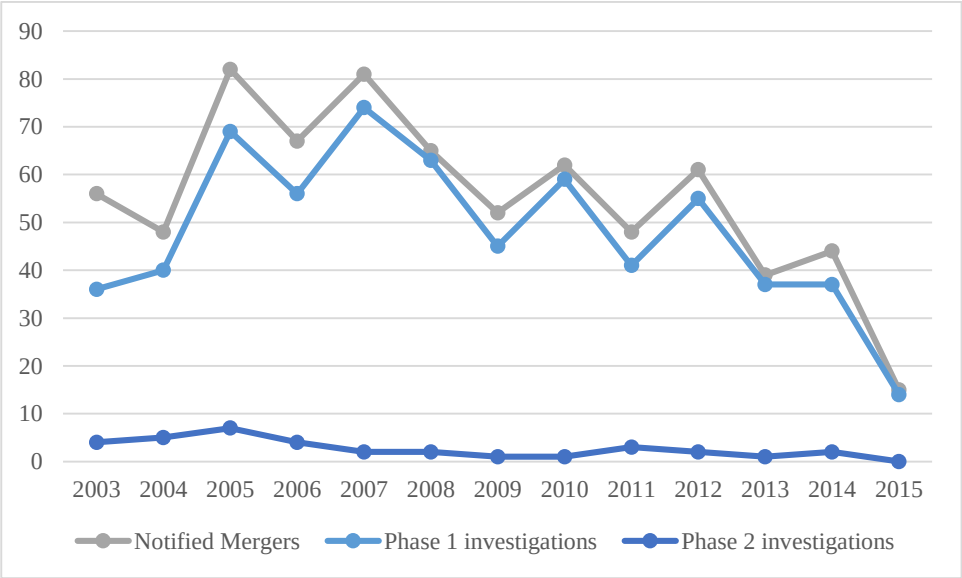
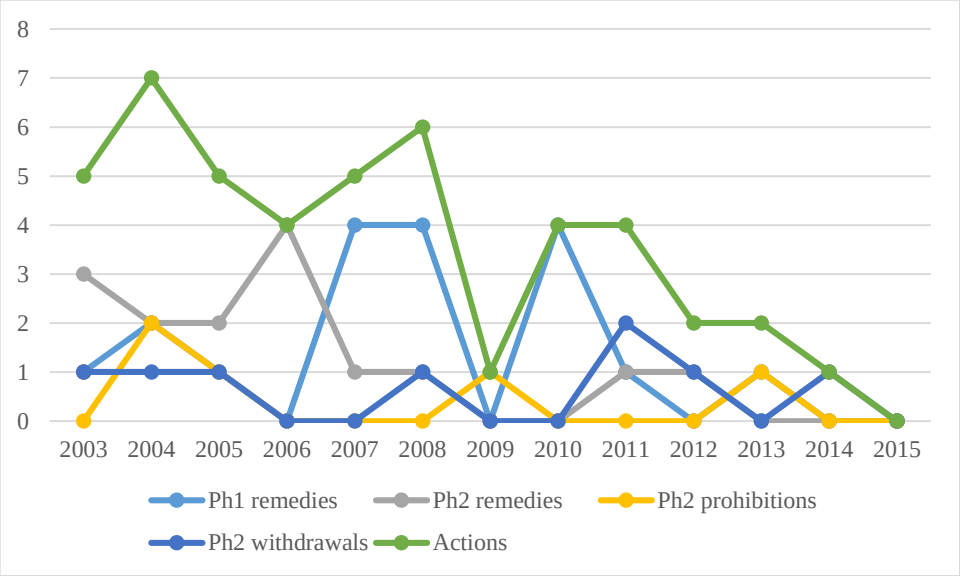


Figure 3 presents the yearly merger-policy actions imposed by the AdC, namely Phase 1 remedies, Phase 2 remedies, Phase 2 prohibitions, Phase 2 withdrawals. Actions corresponds to the sum of the other four variables. There is no evident correlation between each different merger policy action. Although, when comparing to figure 2 we see that merger policy action seem to be correlated with the number of notified mergers among the years.

Figure 3 Merger Actions over time



The Authority's data provide in-depth information regarding characteristics of the merger and decisions. In order to apply an econometric model, the information was converted into variables, most of them in dummies.

The main economic variables influencing a merger decision are based on the nature of merger (pure horizontal, "vertical" or with "conglomerate" effects) (Bergman et al, 2005); the type of concentration ("full" acquisition, assets acquisition, Joint Venture-"JV", "tender" offer or even a "partial" merger), and also the relevant markets. While geographic market is divided into Portugal ("pt"), European Economic Area and worldwide; product market is analyzed, considering whether the process is related to an attractive industry for M&A. We consider the industry sectors raised by Schoenberg & Reeves (1999) and Setar (2012) that are in line with the ones considered by Duso et al. (2007). In order to do so, firstly we identify the activity sectors for each process, according to the Portuguese code for economic activities-CAE (Classificação das Actividades Económicas). Afterwards, we construct dummy variables for Telecommunications (CAE J), Financial Intermediation (CAE K); Energy and Water

Resources (CAE D and E) and Transport (CAE H) and Pharmaceutical Industry (CAE C1). Then, we also include a variable with the number of sectoral regulatory authorities (sectreg) that Competition Authority has to listen per each case.

In addition to this, we have dummy variables identifying who was the President of Competition Authority for each decision. Abel Mateus led the institution since its establishment in 2003 until March of 2008, followed by Manuel Sebastião ("ms") until September of 2013, when António Gomes ("ag") took up his functions.

In order to ensure that influence of President of Competition Authority in decision is not reflection of evolution among the years, we add a variable "year" in place of "ms" and "ag" in a second model.

We start by applying a simple probit regression with the purpose of determine the probability to open a Phase 2 investigation. The dependent variable is a dummy variable "Phase2" assuming a value of 0 when the process is decided on Phase 1 (failure) or a value of 1 if the process is only decided on a Phase 2 investigation (success). It will be constructed two models with slight differences on explanatory variables. In Model 1 we will consider the variables "ms" and "ag", while in Model 2, we will consider "year". All the remaining explanatory variables hold for both models. In the end, we will analyze what are the variables statistically significant at 5% and include them in a final model-Model 3-that accurately explains the determinant variables of a Phase 2 investigation.

After achieving the final set of explanatory variables, it is important to bear in mind that coefficients from the probit models cannot be directly interpreted. The marginal effects are then computed, in order to effectively understand how relevant variables predict the opening of a Phase 2 investigation.

Second, we use an ordered probit model taking as dependent variable "Decision" in the order 1, 2, 3, to determine the probability of a merger be approved outright (1), approved with commitments (2) or prohibited (3).

Again, we will construct a Model 4 with "ms" and "ag" as explanatory variables and a Model 5 with "year" beyond all the other variables as barriers to entry, mergers' effects, mergers' type, relevant product and geographic market as well as the number of regulatory agencies listened. Here, we also include a dummy "Phase 2" as an explanatory variable with the purpose of differentiate between decisions taken on Phase 1 or Phase 2. Afterwards, we end up by constructing a final Model 6 with all the variables considered as relevant to predict the probability of a final decision.

In addition we, present an enlarged Model 6, which includes the 8 cases withdrawn in Phase 2 in order to verify if there are considerable differences between the two models, otherwise this cases were really likely to suffer by severe decisions if it continue in the market.

Section 5. Discussion of Results

Table 3 exhibits the main results for the probit models calculated. The first three models (Model 1, 2 and 3) correspond to the probability of a process being decided on the Phase 2 while the remaining three (Model 4, 5 and 6) predict the probability of a merger being approved, approved subject to conditions, or prohibited.

First, we verify that all the cases within European geographic market or related to the Pharmaceutical Industry were approved without conditions in Phase 1. Therefore, variables "C" and "eea" are disregarded in the models. Moreover, all the partial merges were approved without conditions and so, the variable "partial" is not included in Model 4 and followings.

Second, in all the models, the dummy variables used to identify the type of concentration and either the relevant product or geographic markets are not statistically significant at 5%. Therefore, they are not considered as relevant to pursue for a Phase 2 investigation or to make a final decision on the merger approval.

Third, while in Model 1, the variables "ms" and "ag" are relevant at 5 and 10% significance level, respectively, in Model 2 the variable "year" is relevant for 1% level. This way, we have assumed that the need for an in-depth investigation has been decreasing over the years, but not only due to different Presidents.

Focusing on model 2, we see that the probability of Phase 2 investigations is explained by the "year", the existence of "barriers" to entry in the market, the "conglomerate" and "vertical" effects of a merger and also by the number of regulatory agencies ("sectreg") that AdC has to call. These variables are employed in Model 3, in order to predict this probability accurately. When analyzing the respective marginal effects (see Table 4), we conclude that as we move forward one year the probability of being decided on Phase 1 increases by 0,4%. Moreover, a merger with conglomerate effects is 1,5 percentage points (pp) more likely to be decided on Phase 1 while a merger with vertical effects is 7,9 pp more likely to be decided on Phase 2. In addition, markets with high barriers to entry make the Phase 2 more likely in 3,6percentage points. In its turn, the probability of an in-depth investigation increases by 2,1% per each regulatory agency that Competition Authority listens.

This way, we conclude, that cases notified are even more cleared in Phase 1, which is desirable for both of the parties. Competition Authority benefits from higher bargaining power and merging firms have less probability of suffer an action by the Authority. Furthermore, mergers between firms operating in unrelated business, i.e., with

conglomerate effects, seems to not be a big threat to competition and for that reason are easily approved in the Phase 1; notwithstanding the vertical mergers tend to need an in-depth investigation, in order to ensure that the effects will increase efficiency and not compromise competition and consumer welfare. What is more, the number of external entities listened may signal the complexity of the case and so, when they are higher, the decision is likely to be made in Phase 2. Mergers in markets with high barriers to entry may compromise competition, since the increase of market power by firms cannot be offset by new entrants. Thus, in order to prevent anti-competitive mergers, it is more likely to pursue for Phase 2 investigations under the existence of high barriers to enter in the market.

Overall the probability of a case be decided on Phase 1 is 98,7% while for Phase 2 is equal to 1,3%.

Model 4 and 5 present the probability of each final decision taken by the Competition Authority. At first sight, when all the variables are considered, we verify that the ones analyzing the type of concentration, product market and geographic market continue to not be relevant for both models. Moreover, the variables “ms” and “ag” (in model 4) as well as “year” (in model 5) are not statistically significant.

In the end, we obtain Model 6 with the following main drivers for AdC’s decision: “Phase2”, “barriers”, “vertical”, “conglomerate” and “sectreg”.By analyzing the marginal effects after the ordered probit model, we conclude that when a case is decided in Phase 2, the probability of being approved without commitments is lower in almost 60 pp while the probability of impose a commitment is higher in 54pp and a prohibition is more likely in 6pp. The conglomerate and vertical effects increase the probability of a decision be approved outright in 2,5% and 1,6%, respectively. The probability of impose a

commitment increases by 3% per each regulatory entity listened. In what concerns prohibition decision, the variables take tiny values, but it is possible to verify in one hand, a positive correlation with variables: “Phase 2” and “sectreg”, and in the other hand, a negative one with conglomerate or vertical effects, which induces that horizontal mergers increase the probability to block a merger.

Again, high barriers to entry and the existence of horizontal concerns in a merger are conditions to improve market power and so, compromise competition, resulting on severe decisions.

Overall, according to the ordered probit model estimated for a 5% significance level, the probability of the Portuguese Competition Authority approves a merger is around 98,6%, and 1,4% of approve without commitments. The decision to prohibit is close to zero, due to the low and decreasing number of prohibitions.

Model 6 enlarged (see Table 4) considers withdrawn cases as prohibitions. When comparing to regular Model 6 we do not see significant differences in marginal effects, thereby we believe that if these cases were not withdrawn, they would raise critical issues and would undergo an intervention.

Section 6. Conclusions

The objective of this report was to provide econometric evidence on relevant factors that draw a pattern on merger control decisions taken by Portuguese Competition Authority. It was considered 651 M&A processes, between January of 2013 and September of 2015, and respective information collected, regarding their characteristics, in order to define the ones that drive to a more in depth investigation, and also to the final decision.

First, it is clear that most of the decisions passed by Competition Authority are decided with no conditions in the first Phase (93%). In opposition, prohibitions of a merger are rare in Portugal (1%) and the imposition of remedies has been decreasing. However, in the second phase, 8 cases were withdrawn by the notifying parties, otherwise the probability to suffer an intervention (even a prohibition) would be higher.

Second, we found that number of sectoral regulatory agencies listened to solve a case is really relevant to determine the need to open a Phase 2 investigation and also to determine which is final outcome of decisions. Actually it may reflects the complexity of the market in study and can be used more times.

Third, econometric evidence on estimations of probability to open a Phase 2, confirmed not only the relevance of barriers to entry and both vertical and horizontal effects, but also the annual decreasing tendency of pursue for in-depth investigations.

Forth, the ordered probit model of decision, also confirmed the relevance of variables as high barriers to entry and horizontal effects to define severe decisions. Moreover, in phase 2, Competition Authority tend to intervene more in merger cases.

Therefore, mergers between firms operating in related business with higher barriers to entry and subject to the opinion of more sectoral regulatory agencies are likely to need a longer and more detailed investigation. Moreover, it is more likely to get the outright approval on a non-horizontal merger made in a Phase 1 without relevant barriers to entry and with low number of regulatory entities listened. In contrast, it is more likely that commitments are imposed on a horizontal merger within a market with high barriers to entry which requires the opinion of several regulatory agencies and if it is in the Phase 2.

Fifth, the probability of merger be cleared on Phase 1 is increasing over time whilst the probability of a remedy be imposed in a merger is higher in Phase 2.

Finally, it is important to notice that there is no influence of product and geographic markets, type of concentration and further AdC's president, which indicates that decisions are not biased by political pressure (Mai, 2014),

To conclude we can verify that our main findings are in line with the literature review. Although, it is not possible to conclude whether decisions were appropriated or not.

In order to get strongest econometric results, more quantitative factors should be considered in future investigations, namely the firms' turnover and combined market share of firms.

Section 7. Appendix

Table 1 Cases notified to Portuguese Competition Authority and respective decision over the years

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
[Phase 1] No of cases notified	56	48	82	67	81	65	52	62	48	61	39	44	15	720
Cases withdrawn	0	0	0	1	0	0	1	0	1	0	0	2	1	6
outside AdC jurisdiction	13	3	6	6	4	2	5	1	3	4	1	2	0	50
sent to Commission	1	0	0	0	1	0	0	1	0	0	0	0	0	3
[Phase 1] Relevant Cases	36	40	69	56	74	63	45	59	41	55	37	37	14	626
approved without conditions	35	38	68	56	70	59	44	55	40	55	36	37	14	604
approved subject to conditions	1	2	1	0	4	4	0	4	1	0	1	0	0	18
prohibited	0	0	0	0	0	0	1	0	0	0	0	0	0	1
[Phase 2] Proocedings initiated	4	5	7	4	2	2	1	1	3	2	1	2	0	34
Cases withdrawn	1	1	1	0	0	1	0	0	2	1	0	1	0	8
[Phase 2] Relevant Cases	3	4	6	4	2	1	1	1	1	1	1	1	0	26
approoved without conditions	0	0	3	0	1	0	0	1	0	0	0	1	0	6
approved subject to conditions	3	2	2	4	1	1	0	0	1	1	0	0	0	15
prohibited	0	2	1	0	0	0	1	0	0	0	1	0	0	5
[Total]Relevant Cases	39	44	75	60	76	64	46	60	42	56	38	38	14	652

Table 2 Preliminary Statistics

Variable	Description	Obs	Mean	Std Dev	Min	Max
phase2	Dummy=1 if the merger process was cleared in Phase 2	651	0,040	0,196	0	1
decision	=1 if the merger is approved without conditions =2 if the merger is approved subject to conditions =3 if the merger is prohibited	651	1,066	0,278	1	3
Merger Effects						
vertical	Dummy=1 if there are vertical effects resulting of merger	651	0,054	0,226	0	1
conglomerate	Dummy=1 if there are conglomerate effects resulting of merger	651	0,332	0,471	0	1
Concentration´s type						
full	Dummy=1 if the concentration was a full merger	651	0,714	0,452	0	1
jv	Dummy=1 if the concentration was a joint venter	651	0,100	0,300	0	1
tender	Dummy=1 if the concentration was a tender offer	651	0,015	0,123	0	1
partial	Dummy=1 if the concentration was a partial merger	651	0,017	0,129	0	1
Geographic and Product Market						
pt	Dummy=1 if the relevant geographic market is national	651	0,717	0,451	0	1
eea	Dummy=1 if the relevant geographic market is the European Economic Area	651	0,112	0,316	0	1
C	Dummy=1 if the relevant product market is within Pharmaceutical Industry sector (CAE C1)	651	0,045	0,206	0	1
J	Dummy=1 if the relevant product market is within Telecommunication sector (CAE J)	651	0,108	0,310	0	1
K	Dummy=1 if the relevant product market is within Financial Intermediation sector (CAE K)	651	0,066	0,249	0	1
DE	Dummy=1 if the relevant product market is within Energy and Water Resources sector (CAE D and E)	651	0,117	0,321	0	1
H	Dummy=1 if the relevant product market is within Transport sector (CAE H)	651	0,115	0,320	0	1
Other Variables						
barriers	Dummy=1 if there are high level of entry barriers in the market	651	0,204	0,403		
sectreg	Number of sectoral regulatory authorities that AdC call on in order to take a decision	651	0,237	0,517	0	3
Ms	Dummy=1 if the President of AdC at the decision time was Manuel Sebastião	651	0,763	0,425	0	1
Ag	Dummy=1 if the President of AdC at the decision time was António Gomes	651	0,118	0,323	0	1
Year	Year at which the merger is notified	651	2008,367	3,316	2003	2015

Table 3. Probit Models

Dependent Variable	phase2			decision		
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
phase2	---		---	2,729***	2,687***	2,543
	---		---	(0,371)	(0,376)	(0,337)
year	---	-0,138***	-0,132	---	-0,021	---
	---	(0,043)	(0,040)	---	(0,037)	---
ms	-0,532**	---	---	0,125	---	---
	(0,255)	---	---	(0,246)	---	---
ag	0,972*	---	---	-0,643	---	---
	(0,552)	---	---	(0,616)	---	---
barriers	0,851***	0,773***	0,673	0,721***	0,702***	0,755
	(0,227)	(0,232)	(0,213)	(0,234)	(0,233)	(0,213)
conglomerate	-0,551**	-0,541**	-0,533	-1,066**	-1,094**	-0,859
	(0,361)	(0,375)	(0,346)	(0,449)	(0,452)	(0,391)
vertical	0,791**	0,949*	0,947	-1,488***	-1,603***	-1,256
	(0,363)	(0,372)	(0,336)	(0,631)	(0,624)	(0,557)
full	-0,216	-0,192	---	-0,178	-0,205	---
	(0,306)	(0,317)	---	(0,301)	(0,299)	---
jv	0,002	-0,048	---	0,602	0,516	---
	(0,424)	(0,438)	---	(0,407)	(0,405)	---
tender	0,051	0,070	---	-1,275	-1,329	---
	(0,708)	(0,7)	---	(0,977)	(0,97)	---
partial	0,449	0,486	---	---	---	---
	(0,699)	(0,703)	---	---	---	---
pt	0,822*	0,883*	---	0,550	0,532	---
	(0,452)	(0,471)	---	(0,421)	(0,418)	---
J	0,221	0,136	---	-0,480	-0,425	---
	(0,423)	(0,439)	---	(0,526)	(0,52)	---
K	-0,386	-0,440	---	-0,743	-0,622	---
	(0,53)	(0,541)	---	(0,582)	(0,561)	---
DE	1,064*	-1,082	---	0,140	0,184	---
	(0,575)	(0,574)	---	(0,383)	(0,382)	---
Ht	0,302	0,286	---	0,231	0,286	---
	(0,335)	(0,34)	---	(0,339)	(0,331)	---
sectreg	0,642***	0,699**	0,654	0,792***	0,762***	0,543
	(0,23)	(0,235)	(0,153)	(0,24)	(0,235)	(0,144)
Pseudo R2	0,2499	0,319	0,2540	0,513	0,5070	0,46
Log likelihood	-77,054	-74,322	-81,465	-77,803	-78,685	-86,135
Observations	651	651	651	651	651	651

The symbols *,**,*** represent significance at 10,5 and 1%, respectively
Standard errors are represented in parenthesis.

Table 4 Marginal Effects

	Model 3
	P(phase2)=1
year	-0,004
	(0,001)
barriers	0,0357
	(0,018)
conglomerate	-0,015
	(0,008)
vertical	0,079
	(0,051)
sectreg	0,021
	(0,008)
P(phase2)	0,0127
n	651

	Model 6			Model 6 enlarged		
	P(decision)=1	P(decision)=2	P(decision)=3	P(decision)=1	P(decision)=2	P(decision)=3
phase2	-0,587	0,535	0,052	-0,769	0,519	0,250
	(0,127)	(0,117)	(0,035)	(0,083)	(0,081)	(0,074)
barriers	-0,046	0,045	0,0002	-0,037	0,037	0,0009
	(0,019)	(0,019)	(0,0004)	(0,019)	(0,019)	(0,001)
conglomerate	0,025	-0,025	-0,00007	0,026	-0,026	-0,0005
	(0,009)	(0,009)	(0,0001)	(0,011)	(0,011)	(0,0005)
vertical	0,016	-0,016	-0,00003	-0,026	-0,026	-0,0003
	(0,007)	(0,007)	(0,00005)	(0,008)	(0,008)	(0,0003)
sectreg	-0,0193	0,019	0,00005	-0,021	0,021	0,0004
	(0,008)	(0,008)	(0,00008)	(0,008)	(0,008)	(0,0004)
P(decision)	0,986	0,0139	0,00002295	0,978	0,022	0,00025
n	651	651	651	659	659	659

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